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The Plastic Pipe Failure, Risk, and Threat Analysis project seeks to identify key causes and defects that lead to failure initiation and growth. The modes of failure being investigated are slow crack growth and rapid crack propagation.

During this 8th quarter of the project, GTI held one teleconference with the Project Advisory Group, PAG to discuss the project status and progress.

GTI received five of the six materials for S-4 testing. One material has been cut and dimensioned. GTI started initiation testing on the prepared material but was unsuccessful in initiating a satisfactory crack. GTI will follow ISO 13477 procedures for notching or conditioning at lower temperatures to get initiation.

GTI analyzed six failed Aldyl-A samples for root-cause. Five of the samples were removed from service due to leaking. Appurtenances on the pipe segments included tees, a valve, and an elbow. The samples were subjected to visual and microscopic examination, melt flow and density testing, oxidative induction time and differential scanning calorimetry. Only one sample was the result of third party damage. Three failures were attributed to slow crack growth. One sample leaked as a result of a broken o-ring. The final sample analyzed in this period was cut out after a bad fusion procedure and GTI has not yet concluded the cause.

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